

No.

200300013



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

*Busch Agricultural Resources, Inc.*

Whereas, THERE HAS BEEN PRESENTED TO THE

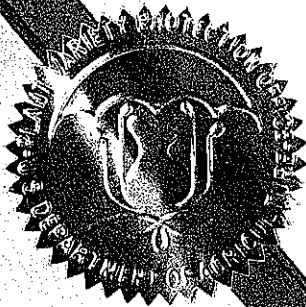
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR PLANT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (34 U.S.C. 2321 ET SEQ.)

BARLEY

'Conrad'



*In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this thirteenth day of April, in the year two thousand and four.*

Attest:

*[Signature]*

Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

*[Signature]*

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE

## APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate)		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER		3. VARIETY NAME	
BUSCH AGRICULTURAL RESOURCES, INC.		2B96-5057		Conrad may 3/22/04	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)		5. TELEPHONE (include area code)		FOR OFFICIAL USE ONLY PVPO NUMBER 200300013	
3515 EAST COUNTY ROAD 52 FORT COLLINS, CO 80524 USA		(970) 221-5622			
7. GENUS AND SPECIES NAME		8. FAMILY NAME (Botanical)		FILING DATE	
HORDEUM VULGARE L.		GRAMINEA		Oct. 22, 2002	
9. CROP KIND NAME (Common name)				FILING DATE	
SPRING BARLEY				10/9/02	
10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) (Common name)				CERTIFICATION FEE:	
CORPORATION				\$ 2450	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION				DATE	
DELAWARE				10/9/02	
12. DATE OF INCORPORATION				CERTIFICATION FEE:	
01-01-81				\$ 432.00	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS				DATE	
DR. LES WRIGHT OR DR. BLAKE COOPER OR MR. GARY BOVARD BUSCH AGRICULTURAL RESOURCES, INC. 3515 EAST COUNTY ROAD 52 FORT COLLINS, CO 80524 USA				3/22/2004	
14. TELEPHONE (include area code)				15. FAX (include area code)	
(970) 221-5622				(970) 472-2334	
16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)					
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of the Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Applicant's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to PVPO) h. QUALITY AND AGRONOMIC DATA					
17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act)					
<input type="checkbox"/> YES (If "yes," answer items 18 and 19 below) <input checked="" type="checkbox"/> NO (If "no," go to item 20)					
18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?			19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?		
<input type="checkbox"/> YES <input type="checkbox"/> NO			<input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED		
20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?					
<input type="checkbox"/> YES (If "yes," give names of countries and dates) <input checked="" type="checkbox"/> NO					
21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.					
The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.					
Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF APPLICANT (Owner(s))			SIGNATURE OF APPLICANT (Owner(s))		
NAME (Please print or type)			NAME (Please print or type)		
Senior Manager, Barley Research			Senior Director Technical Operations		
CAPACITY OR TITLE		DATE		CAPACITY OR TITLE	

~~200300012~~

**EXHIBIT A**

**ORIGIN AND BREEDING HISTORY OF 2B96-5057 'Conrad'**

200300013

MAH 3/22/04

**PEDIGREE:** B1215 // B1202 / TR488

**Date of Cross:** 1993

**History:**

The two-row spring malting barley line 2B96-5057 resulted from a single cross between B1215 and 2B88-5336. The cross was made in the greenhouse in Ft. Collins, CO in the spring of 1993 and assigned the cross-number C93-5216. The female parent (B1215) is a two-row malting barley developed and released by Busch-Agricultural Resources Inc. (BARI). The male parent (2B88-5336) is an unreleased two-row malting BARI breeding line derived from a cross between B1202 and TR488. The extended pedigree of 2B96-5057 could be written as: B1215 // B1202 / TR488.

The F<sub>1</sub> generation was grown in the greenhouse in the fall of 1993 and the subsequent F<sub>2</sub> generation was planted the following spring and harvest in bulk in summer in Idaho Falls, ID. A random sub-sample of 196 seed taken from the bulk harvest were used to produce an F<sub>3</sub> single seed descent generation in the greenhouse in the fall of 1994 and a subsequent F<sub>4</sub> generation in early 1995. Approximately 196 individual F<sub>4</sub> heads were harvested and planted as F<sub>5</sub> head rows in Idaho Falls during the 1995 growing season. A single head was harvested from each selected F<sub>5</sub> row to produce an F<sub>6</sub> increase generation in a counter-season nursery near Christ Church, New Zealand. Approximately 50-100 grams of seed was also hand harvested from each selected F<sub>5</sub> row to provide a sample for whole grain NIR measurement for predicted grain protein, malt extract and kernel brightness as a preliminary screen on malt quality.

The line designation of 2B96-5057 was assigned to seed harvested from the New Zealand increase and entered into 1<sup>st</sup> year replicated yield trials as an F<sub>5</sub> derived F<sub>7</sub> line during the 1996 growing season at Idaho Falls, ID and Fairfield, MT. Advancement to subsequent location x years of testing was based on performance for yield, height, maturity, kernel assortment size, foliar disease scores, etc. and more rigorous micro-malting evaluations for a range of quality traits relative to the released check cultivars Harrington, B1202 and Merit.

It was entered in the Western Spring Barley Nursery in 2001. It was tested at the pilot scale level in 2001 and will be tested again in 2002 by the American Malting Association. It is targeted as a two-rowed malting barley for the Intermountain states of Idaho, Montana and Wyoming. In 1998 head selections were made at Fort Collins, Colorado from a uniform and stable F<sub>9</sub> population to initiate purification and multiplication. 100 Headrows were grown in Ft Collins 1999. Thirty of the 100 headrows were selected, uniform and true to type, and were and grown in Ft Collins in 2000 as progeny plot 1's. Five of the 30 plots were selected in the winter of 2000/2001 to constitute Breeder Seed. Breeder Seed is being produced in Arizona the winter of 2001/2002. 2B96-5057 has been uniform and stable from F<sub>9</sub> through F<sub>12</sub>. Less than .05% of the plants were rogued from fields in 2001. Approximately 95% of the rogued plants were 2 to 4 centimeters taller than 2B96-5057. Less than .05% total variant plants may be encountered in subsequent generations. Certified seed will be available in 2004.

TR 488 is a publicly known variety from the University of Saskatchewan. It was entered in the Canadian Western Co-operative Two-row Barley Registration Test in 1984 and 1985 under the name TR488. TR 488's pedigree is Harrington / TR208. Breaking this down further we come up with the following:

TR208(1975) = Wpg. M 751-2610 = TR429//TR203/TR201, where

TR429 = S74232 (University of Saskatchewan breeding line) = Klages/S7122 (S7122 = another University of Saskatchewan breeding line)

TR203 = Wpg. M 7219-4465-4134 = Wpg. M 6916-105/Centennial//Klages

TR201 = Wpg. M 7118-702-10 = Wpg. M 6916-105/Centennial

~~200300012~~  
200300013

EXHIBIT B

STATEMENT OF DISTINCTNESS

3/22/04  
MAH  
'Conrad'

~~2B96-5057~~ is most similar to the spring barley variety "B1202", however it can be distinguished by the following morphological characteristics:

- 2B96-5057 is a midseason spring barley.  
B1202 is an early season spring barley.
- 2B96-5057 has a saucer shaped collar.  
B1202 has a V-shaped collar.
- 2B96-5057 has a parallel head shape.  
B1202 has a strap head shape.
- 2B96-5057 has a mid-lax head.  
B1202 has a lax head.
- 2B96-5057 has long margin hairs on the rachis.  
B1202 has long hairs covering the rachis.
- 2B96-5057 has glume hair confined to a band.  
B1202 glumes are completely covered with hair.
- 2B96-5057 is absent of lemma teeth.  
B1202 has few lemma teeth.

U.S. DEPARTMENT OF AGRICULTURE  
 AGRICULTURAL MARKETING SERVICE  
 LIVESTOCK AND SEED DIVISION  
 BELTSVILLE, MARYLAND 20705

EXHIBIT C  
 (Barley)

OBJECTIVE DESCRIPTION OF VARIETY  
 BARLEY (*HORDEUM VULGARE*)

200300013

INSTRUCTIONS: See Reverse

NAME OF APPLICANT(s)

BUSCH AGRICULTURAL RESOURCES, INC.

FOR OFFICIAL USE ONLY

PVPO NUMBER

~~200300012~~

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

3515 EAST COUNTY ROAD 52  
 FT. COLLINS, CO 80524 USA

VARIETY NAME OR TEMPORARY

DESIGNATION

2B96-5057

'Conrad'

M+H  
3/22/04

Place the appropriate number that describes the varietal character of this variety in the boxes below.  
 Place a zero in first box (i.e. 089 or 09 ) when number is either 99 or less or 9 or less.

## 1. GROWTH HABIT:

1 1=SPRING 2=FACULATIVE WINTER 3=WINTER 3 Early Growth: 1=PROSTRATE 2=SEMI-PROSTRATE  
 3=ERECT

## 2. MATURITY (50%) Flowering:

2 1=EARLY (California Mariout) 2=MIDSEASON (Betzes) 3=LATE (Frontier)

No. of days Earlier than .....  1=BETZES 2=CALIFORNIA MARIOUT 3=CONQUEST 4=DICKSON

2 No. of days Later than ..... 8 5=PIROLINE 6=PRIMUS 7=UNITAN 8=B1202

## 3. PLANT HEIGHT (From soil level to top of head):

3 1=SEMI-DWARF 2=SHORT (California Mariout) 3=MEDIUM TALL (Betzes) 4=TALL (Conquest)

0 2 Cm. Shorter than .....  1=BETZES 2=CALIFORNIA MARIOUT 3=CONQUEST 4=DICKSON

Cm. Taller than ..... 8 5=PIROLINE 6=PRIMUS 7=UNITAN 8=B1202

## 4. STEM:

2 Exertion (Flag to spike at maturity): 1 = 0 - 3 cm. 2 = 3 - 10 cm.  
 3 = 10 - 15 cm.

1 Anthocyanin: 1=ABSENT 2=PRESENT

0 5 NO. OF NODES (Originating from node above ground)

5 Collar Shape: 1=CLOSED 2=V-SHAPED 3=OPEN  
 4=MODIFIED CLOSED OR OPEN 5=Saucer

3 Shape of Neck: 1=STRAIGHT 2=SNAKY  
 3=SLIGHTLY SNAKY

## 3=OTHER(Specify)

## 5. LEAF:

1 Basal leaf sheath (seedling): 1=GLABROUS 2=PUBESCENT

1 Position of flag leaf (at boot stage): 1=DROOPING  
 2=UPRIGHT

2 Waxiness: 1=ABSENT (Glossy) 2=SLIGHTLY WAXY  
 3=WAXY

1 2 MM. WIDTH (First leaf below flag leaf)

2 0 CM. LENGTH (First leaf below flag leaf)

1 Anthocyanin in leaf sheath: 1=ABSENT 2=PRESENT

## 6. HEAD:

1 Type: 1=TWO-ROWED 2=SIX-ROWED

4 Density: 1=LAX 2=ERECT (Not dense)  
 3=ERECT (Dense) 4=MID-LAX

4 Shape: 1=TAPERING 2=STRAP 3=CLAVATE  
 4=OTHER (Specify) Parallel

2 Waxiness: 1=ABSENT (Glossy) 2=SLIGHTLY WAXY  
 3=WAXY

4 Lateral Kernels Overlap: 1=NONE 2=AT TIP  
 3=1/4 - 1/2 OF HEAD 4= NA

4 Rachis (Hair on edge): 1=LACKING 2=FEW 3=COVERED  
 4=LONG WITH MARGIN HAIRS

## 7. GLUME:

2 Length: 1=1/3 OF LEMMA 2=1/2 OF LEMMA  
 3=MORE THAN 1/2 OF LEMMA

3 Hairs: 1=NONE 2=SHORT 3=LONG

3 Hair covering: 1=NONE 2=RESTRICTED TO MIDDLE 3=CONFINED TO BAND 4=COMPLETELY COVERED

2 Awns: 1=LESS THAN EQUAL TO LENGTH OF GLUMES 2=EQUAL TO LENGTH OF GLUMES  
 3=MORE THAN EQUAL TO LENGTH OF GLUMES

3 Awn Surface: 1=SMOOTH 2=SEMISMOOTH 3=ROUGH

## 8. LEMMA:

- ☐ 5 Awrt: 1=AWNLESS 2=AWNLETS ON CENTRAL ROWS, AWNLESS ON LATERAL ROWS  
3=SHORT ON CENTRAL ROWS, AWNLETS ON LATERAL ROWS 4=SHORT (less than equal to length of spike)  
5=LONG (longer than spike) 6=HOODED
- ☐ 3 Awn Surface: 1=AWNLESS 2=SMOOTH 3=SEMISMOOTH 4=ROUGH
- ☐ 1 Teeth: 1=ABSENT 2=FEW 3=NUMEROUS ☐ 1 Hair: 1=ABSENT 2=PRESENT
- ☐ 1 Shape of Base: 1=DEPRESSION 2=SLIGHT CREASE 3=TRANSVERSE CREASE ☐ 2 Rachilla Hairs: 1=SHORT 2=LONG

## 9. STIGMA:

- ☐ 2 Hairs: 1=FEW 2=MANY

## 10. SEED:

- ☐ 2 Type: 1=NAKED 2=COVERED ☐ 1 Hairs on Ventral Furrow: 1=ABSENT 2=PRESENT
- ☐ Length: 1=SHORT (8.0 mm.) 2=SHORT TO MIDLONG (7.5-9.0 mm.) 3=MIDLONG (8.5-9.5 mm.)  
4=MIDLONG TO LONG (9.0-10.5 mm.) 5=LONG (10.0 mm.)
- ☐ 2 Wrinkling of Hull: 1=NAKED 2=SLIGHTLY WRINKLED 3=SEMIWRINKLED 4=WRINKLED
- ☐ 1 Aleurone Color: 1=COLORLESS (White or Yellow) 2=BLUE
- ☐ 0 ☐ 0 PERCENT ABORTIVE ☐ 4 ☐ 1 GMS. PER 1000 SEEDS

## 11. DISEASE: (0=Not Tested, 1=Susceptible, 2=Mod. Susceptible, 3=Mod. Resistant, 4=Resistant)

- ☐ 1 SEPTORIA ☐ 1 NET BLOTCH ☐ 1 SPOT BLOTCH ☐ 3 POWDERY MILDEW
- ☐ 2 LOOSE SMUT ☐ 0 BACTERIAL BLIGHT ☐ 4 COVERED SMUT ☐ 3 FALSE LOOSE SMUT
- ☐ 4 STEM RUST ☐ 0 LEAF RUST ☐ 2 SCAB ☐ 1 SCALD
- ☐ 0 AY ☐ 0 BSMV ☐ 0 BYDV ☐ 1 OTHER (Specify) Barley Stripe

## 12. INSECT: (0=Not Tested, 1=Susceptible, 2=Resistant)

- ☐ 0 GREEN BUG ☐ 0 ENGLISH GRAIN APHID ☐ 0 CHINCH BUG ☐ 0 ARMYWORM
- ☐ 0 GRASS HOPPERS ☐ 0 CERIAL LEAF BEETLE ☐ 0 OTHER
- (Specify): \_\_\_\_\_
- HESSIAN FLY RACES ☐ 0 GP ☐ 0 A ☐ 0 B ☐ 0 C
- ☐ 0 D ☐ 0 E ☐ 0 F ☐ 0 D

## 13. CHEMICAL: (0=Not Tested, 1=Susceptible, 2=Resistant)

- ☐ 0 DDT ☐ OTHER (Specify): \_\_\_\_\_

## 14. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	B1202	Seed size	B1202
Leaf size	B1202	Coleoptile elongation	B1202
Leaf color	B1202	Seedling pigmentation	B1202
Leaf carriage	B1202		

REFERENCES: The following publications may be used as a reference aid for the standardization of character descriptions and terms used in this form:

- Wiebe, G.A., and D.A. Reid, 1961, Classification of Barley Varieties Grown in the United States and Canada in 1958, Technical Bulletin No. 1224, U.S. Dept. of Agriculture.
- Reid, D.A., and G.A. Wiebe, 1968, Barley: Origin, Botany, Culture, Winter Hardiness, Genetics, Utilization, Pests, Agriculture Handbook No. 338, U.S. Dept. of Agriculture. pp. 61-84.
- Malting Barley Improvement Association, Milwaukee, Wisconsin, 1971, Barley Variety Dictionary.

COLOR: Nickerson's or any recognized color fan may be used to determine color of the described variety.

FORM LPGS-470-5 (8-80) (REVERSE)

**EXHIBIT D**

**BOTANICAL DESCRIPTION OF 2B96-5057 'Conrad'**

MAH  
3/22/64

2B96-5057 is a two-rowed, mid-season spring barley bred and developed by Busch Agricultural Resources, Incorporated, Ft. Collins, Colorado. It has excellent malting quality.

Juvenile growth habit is erect. Plant color at boot is green with an upright flag leaf. Head shape is parallel and mid-lax in density with a nodding head type. Neck is slightly snaky with a saucer collar. First rachis segment is slightly bent back and is long and narrow. Base of the first segment is a margin flange with hairs on the margin. Rachis shape is humped with shoulder hairs and long hairs covering the edge. Glume length is one half the length of the kernel and glume hair is long and confined to a band. The glume awns are rough and equal to the length of the glume. Lemma awns are rough, longer than the spike and persistent. Lemma teeth are lacking. Lemma hair is absent and the base is a depression. Lateral floret formation is divergent with rounded lemma tips. Seed is covered, mid-long to long, finely wrinkled with wax present and the aleurone is colorless. Palea tips are long and v-shaped. Rachilla length is one-fourth the length of the kernel with many long hairs, thicker at the base. Ventral crease is open and lacks crease hairs.

2B96-5057 is an intermountain two-rowed variety well adapted to Montana, Idaho and Wyoming.

## 2B96-5057

### Agronomic Summary

Line or Variety	Yield (% B1202)						(13)	(11)	(13)	(5)	(3)	(3)
	(7) Pre-99	(3) 99	(1) 2000	(6) 2001	(3) 2002	(20) Avg	Ht CM	Ldg 1-9	Mat 1-9	Test Wt.	(3) Scald	(3) Net Blotch
2B96-5057 <i>'Conrad'</i>	116	110	113	109	116	113	73	1.9	5.3	52.8	10.9	3.0
B1202	100 (102) *	100 (101)	100 (142)	100 (101)	100 (105)	100 (104)	74	2.0	4.6	50.6	5.8	9.6
Harrington	104	87	97	102	107	101	76	3.3	4.5	52.1	7.7	3.4

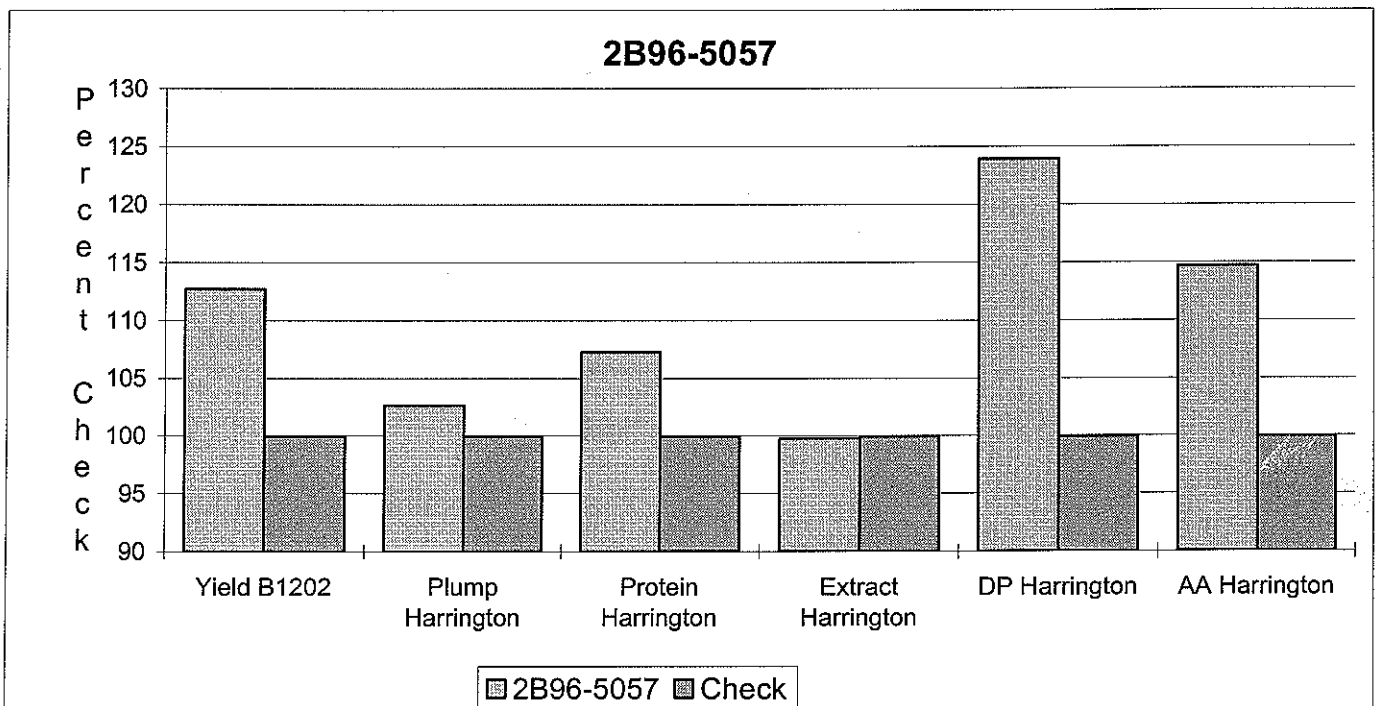
1996-2002 Data, ( ) = Station Years

\* Bushel / Acre

### Quality Summary

Line or Variety	Extract												
	(12) % Plump	(12) Malt Protein	(11) F. Grind	(12) C. Grind	(11) F-C Diff	(11) Wort Visc	(12) S/T	(12) Sol Protein	(12) DP	(12) AA	0 Color	(12) Turb	(7) Beta Glucan
2B96-5057	91.5	12.7	80.0	78.7	1.43	1.48	44.1	5.6	138	76.6	-----	7	222
Harrington	89.1	11.8	80.5	78.8	1.88	1.53	47.9	5.6	111	66.8	-----	5	290

1996-2002 Data, ( ) = Station Years



### **Agronomic and quality abbreviation defined.**

Yield = The yield as a percent of B1202

Ht CM = The height of the plant in centimeters

Ldg 1-9 = The percent of lodging, 1= 0%- 10% and 9= 90% - 100% lodging

Mat = Is a rating of maturity. 1= very early and 9 = very late

Test Wt. = Test Weight which measures bushel weight

Scald = The percent of the plant infected with scald.

Net Blotch = the percent of the plant infected with net blotch

% Plump = The percent of plump kernels

Malt Protein = The protein measurement of the malt

F. Grind = The measurement of extract from barley ground to a fine particle size.

C. Grind = The measurement of extract from barley ground to a course particle size.

F-C Diff = The difference between fine and the course grind.

Wort Visc. = The viscosity of the wort.

S/T = The soluble protein divided by the total protein.

Sol Protein = Soluble protein.

DP = Diastatic Power (enzyme measurement).

AA = Alpha Amylase (enzyme measurement).

Color = Measures clarity

Turb = Turbidity or folowability.

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE

**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)  BUSCH AGRICULTURAL RESOURCES, INC.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER  2B96-5057	3. VARIETY NAME  Conrad <span style="float: right;">MAIL 3/22/04</span>
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)  3515 EAST COUNTY ROAD 52 FORT COLLINS, CO 80524 USA	5. TELEPHONE (include area code)  (970) 221-5622	6. FAX (include area code)  (970) 472-2334
7. PVPO NUMBER  <del>200300012</del> <del>200300013</del>		
8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain.  <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
9. Is the applicant (individual or company) a U.S. national or U.S. based company? If no, give name of country <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
10. Is the applicant the original breeder? If no, please answer the following:  a. If original rights to variety were owned by individual(s): Is (are) the original breeder(s) a U.S. national(s)? If no, give name of country <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO  b. If original rights to variety were owned by a company: Is the original breeder(s) U.S. based company? If no, give name of country <input type="checkbox"/> YES <input type="checkbox"/> NO		
11. Additional explanation on ownership (If needed, use reverse for extra space):		

**PLEASE NOTE:**

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original breeder, both the original breeder and the applicant must meet one of the above criteria.

The original breeder may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

Public reporting burden for this collection of information is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter.

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**EXHIBIT E.**

~~200300012~~  
200300013

**STATEMENT OF THE BASIS OF APPLICANT'S OWNERSHIP**

Busch Agricultural Resources, Incorporated is applicant for protection in this case being:

- MAH  
3/22/04
- a.) The incorporated business registered in Delaware for and within regular employees have bred  
2B96-5057. 'Conrad'
  - b.) The proprietary owner and intending commercial seller of 2B96-5057.